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ABSTRACT

A study conducted in Finland investigated the relationships between trait and test anxiety and low and high achievement in 552 sixth- and eighth-graders. Before the final English language test of the spring term, the students responded to a questionnaire concerning worry, tension, test-irrelevant thoughts, physical reactions (e.g., rapid heartbeat), and fear of failure. A separate questionnaire measured background motivation. Student grades in English and scores on two closed and two open English vocabulary tasks served as achievement measures. Results indicate a connection between anxiety and foreign language achievement. Self-reported anxiety levels were found to be relatively low. It is suggested that the role of communication anxiety in foreign language learning be studied in higher grades, where oral proficiency becomes important. Further research on the interaction between trait and situation-specific anxiety is recommended. An 18-item bibliography is appended. (MSE)

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TRAIT AND TEST ANXIETY IN THE FL CLASSROOM

AINEDIDAKTIIKAN SYMPOSIUMI (DIDACTIC SYMPOSIUM)
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1 Introduction

Anxiety affects foreign-language (FL) learning. The relationship between anxiety and FL proficiency has been somewhat problematic. (e.g. Horwitz et al. 1989, Skehan 1989, Young 1991). Inappropriate measures of anxiety have partly caused the problem. MacIntyre and Gardner (1989) have demonstrated that a clear relationship exists between FL anxiety and FL proficiency if FL specific scales are used.

2 Anxiety

Anxiety refers to complex states including cognitive, emotional, bahavioural, and bodily components (Sarason 1986). Anxiety can be viewed as having two levels: anxiety as a trait, a predisposition to be anxious in a threatening situation, and anxiety as a state, the actual anxiety reaction, specific to tasks or situations (Vidler 1977, Schwarzer 1986, Sinclair 1987, MacIntyre & Gardner 1989).

In addition to viewing anxiety as trait and state, the concept has to be divided into components. The cognitive component of anxiety refers to negative self-evaluations, worries about one's social performance, concern with one's public image, and perceived inability to cope with social demands. The emotional component covers feelings of distress, discomfort, and tension. (Schwarzer 1986) The behavioural (action or instrumental) component refers to awkwardness, reticence, inhitions of gestures and speech, withdrawal and avoidance tendencies (Schwarzer 1986). These reactions can take the form of task-irrelevant thoughts, daydreaming etc. (Carver & Scheier 1986, Sarason 1986, Sinclair 1987). Finally, the bodily component, which Schwarzer (1986) places in the emotional component, refers to such somatic reactions as palmar sweating, increased heartbeat etc. (Sarasson 1986, Sinclair 1987).

Audience anxiety, which is one kind of social anxiety, is characterized by feelings of discomfort when performing in front of an audience, e.g. in the classroom, which can result in an inhibition of speech. Audience anxiety is closely related to test anxiety, because in both cases the individual is afraid of

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being evaluated by others. Test anxiety is a situation specific state or trait which refers to examinations. (Schwarzer 1986) Audience anxiety has also been referred to as communication apprehension or communication reticence (see Sallinen-Kuparinen 1986, Laine 1987, Horwitz et al. 1989). In communicatively oriented language teaching audience anxiety has an obvious role to play. MacIntyre and Gardner (1989) have proposed the concept communicative anxiety, which is composed of class anxiety, language use anxiety and audience anxiety.

3 Anxiety and Learning

Anxiety arises when individuals become concerned about or perceive a threat to their well-being in a present or future situation. This concern may be caused by perceived possibility of physical or psychological harm, the possibility of harming one's self-image or one`s social self-concept. The perceived danger may be real or imaginary. (Carver & Scheier 1986) Anxiety often appears in the context of behaviour directed towards a task, e.g. a test. The task itself may not be threatening. The consequences of not coping with the task adequately are threatening, i.e. fear of failure is present. (Carve & Scheier 1986)

The creation of anxiety is associated with appraisal processes. Task demands can be appraised as challenging, ego-threatening, or harmful. If the person perceives a lack of coping ability, the appraisal of a task as ego-threatening results in (test)anxiety. This lack of perceived self-efficacy (an individual's confidence in his ability to cope successfully with the task at hand) leads to a discrepancy between the appraised task demands and the appraised personal coping resources, which gives rise to test anxiety. It affects negatively the person-environment interaction and, consequently, decreases performance. (Schwarzer 1986) Different kinds of tasks have been found to evoke different appraisal processes in students (Julkunen 1989).

High level of anxiety affects performance by distracting attention away from the task at hand. Also the defensive behaviours, avoidance and mental withdrawall, associated with anxiety interfere with performance (Sinclair 1987). An individual's attention is divisible into task-relevant and task-irrelevant aspects. In the school context where an ascape from an aversive situation is not usually possible, people may escape, mentally withdraw, by resorting to task-irrelevant thoughts. (Schwarzer 1986) All people tend to question their capacity to do certain types of tasks, highly anxious are liable to become preoccupied with such thoughts. High level of self-preoccupation leads to distorted interpretation and appraisals of tasks. (Sarason 1986) The negative self-preoccupations absorb part of an individual's information processing capacity and, consequently leave less capacity for coping with task demands (Tobias 1986, MacIntyre & Gardner 1991).

Anxiety interacts also with ego-involvement. In ego-involving situations such as important examinations, competitive learning

situations etc., anxiety interferes with performance and high-anxious students are inferior to low-anxious ones. On the other hand, when ego-involvement is low (or task-involvement is high) anxiety has either little effect or then the impact is facilitative. Game-like situations are a good example here. (Sinclair 1987, c.f. also Allwright & Bailey 1991).

Further, it has been found out that teaching method interacts with anxiety. High anxious students seem to perform best in teacher directed instruction. On the other hand, low-anxious students do better than the high-anxious ones in student centred instruction involving discussion and discovery. (Sinclair 1987, Allwright & Bailey 1991). Finally, high anxiety is related to low self-concept and discrepancies between self-esteem and the social self (Burns 1982).

As stated above, the influence of anxiety on school performance is not, however, always debilitating: some anxiety may be beneficial and energizing (Sinclair 1987, Skehan 1989). There is a tendency for anxiety to be facilitative in high achievers while average and low achievers suffer from the negative effects of anxiety. Further, different people handle anxiety in different ways. Finally, the role of anxiety may change as language proficiency develops. Higher proficiency learners are able to cope with anxiety-provoking situations more flexibly.(Skehan 1989). In a study of Finnish comprehensive school students (aged 12 and 14) it was found out that low achievers had significantly higher trait anxiety than high achievers. The same applied to state anxiety, measured before and after English vocabulary tasks in a normal classroom situation. (Julkunen 1989)

4 Problems

1 How anxious are students in the FL classroom: trait and test anxiety?
2 How are dispositional student characteristics related to test anxiety?

3 How is anxiety related to achievement?
3.1 How are trait anxiety and test anxiety related to achievement?
3.2 Are there differences in test anxiety between low and high achievers?
3.3 Are there differences in achievement between students with low and high trait anxiety?

5 Method

In May 1988 an quasi-on-line test anxiety questionnaire was administered to 552 comprehensive school students from grades six (aged 12) and eight (aged 14) in nine schools in Joensuu, Finland. Before the test, which was their last normal school test in the spring term, the students responded to five statements on a five-point scale. After the test they had to

answer two similar items. The questionnaire included also other items but they are here excluded. The statements were based on the four components of anxiety and were taken from Sarason's (1986, 26) Reactions to Tests questionnaire. The items covered worry (e.g. I wonder how the other students are doing), tension (e.g. I feel distressed), test-irrelevant thougths (e.g. During the test my thoughts were wandering), and bodily reactions (e.g. My heart is beating out of anxiety). Finally one item focused on fear of failure.

A separate background motivation questionnaire was administered to the students in mid May. It consisted of 102 five-point items, only four of which dealt with actual FL trait anxiety (communication apprehension, anxiety in English lessons, bodily reactions and avoidance tendencies). The background questionnaire is part of a larger study on FL learning motivation (Julkunen 1989).

The students school marks in English and their scores in two closed (Three of a Kind 1 and 3) and two open English vocabulary tasks (Categories 1 and 3) served as indicators of achievement. The scores of the school tests could not be used as each class of students did a different test. The school mark was used in dividing students into low and high achievers. The trait anxiety score (+/- SD) was used in dividing students into low annd high anxious ones.

6 Results

6.1 Students` anxiety in the FL classroom

Table 1 shows students` responses to test anxiety items before and after the test (state test anxiety) while Table 2 presents their FL trait anxiety.

Table 1. Students` anxiety in a classroom test (n=564).

	Mean	SD
Anxiety	3.18	1.33
Tension/distress	1.91	1.21
Bodily reaction	2.19	1.33
Worry	2.43	1.32
Fear of failure	2.95	1.27
Test-irrelevant thoughts	2.50	1.38
Worry (post-test)	1.83	1.23

The table shows that the level of anxiety is not particularly high. The actual anxiety item may be interpreted as facilitating anxiety (see Discussion). A normal paper and pencil test does not seem to cause any considerable amount of anxiety.

Table 2. Students` trait anxiety (n=549).

	Mean	SD
Communication apprehension	2.34	1.29
Anxiety in lessons	2.07	1.28
Bodily reactions	2.07	1.33
Avoidance of lessons	2.24	1.43

The results in Table 2 are in line with those of Table 1, i.e. the students' trait anxiety is at a low level, which provides a good basis for FL learning.

6.2 Students` dispositional characteristics and test anxiety

Table 3 presents the correlations between test anxiety and students` dispositional characteristics, i.e. components of motivational orientation (including trait anxiety), foreign language self-concept, situational preferences, and aspiration level.

Table 3. Correlations between students` dipositional characteristics and test anxiety (n=526).

	Test anxiety
Communicative orientation	-.08 *
Intrinsic motivation	.04 ns
Teacher/method motive	-.06 ns
Integrative orientation	.02 ns
Helplessness	.34 ***
Trait anxiety	.33 ***
Criteria for success/failure	-.00 ns
FL self-concept	-.25 ***
Individualistic preferences	-.06 ns
Cooperative preferences	.08 *
Competitive preferences	.28 ***
Aspiration level	-.19 ***

Table 3 demonstrates that helplessness, trait anxiety, and competitive preferences correlate positively very significantly with state test anxiety while FL self concept and aspiration level have a negative correlation with state test anxiety. This is in line with the reviewed literature above.

6.3 Anxiety and achievement

6.3.1 Trait and test anxiety and achievement

Table 4 presents the correlations between trait and test anxiety and school achievement (school mark and four vocabulary measurements).

Table 4. Relationship of trait and test anxiety to school mark and four vacabulary measurements (n=520 to 564).

	Trait anxiety	Test anxiety
School mark	-.40 ***	-.25 ***
Three of a kind 1	-.31 ***	-.14 ***
Categories 1	-.27 ***	-.09 **
Three of a kind 3	-.35 ***	-.20 ***
Categories 3	-.26 ***	-.21 ***

The results above reveal a statistically very significant negative correlation between the two anxiety measures and achievement. The correlations are not particularly high and the significance is partly to be attributed to a rather high number of subjects. Trait anxiety correlates more highly than state test anxiety with achievement. The trait measure may well give more reliable information than one state test anxiety measurement because anxiety as a state is subject to variation, depending on task demands, learning situation etc..

6.3.2 Differences between low and high achievers in trait and test anxiety.

Tables 5 presents the differences in trait and state test anxiety between low and high achievers (in English).

Table 5. Differences between low (n=164 and 170) and high achievers (n=159) in trait and test anxiety.

	Low achievers		High achievers		
	Mean	SD	Mean	SD	T.value
Trait anxiety	10.52	3.75	8.86	2.78	10.00***
Test anxiety	18.24	4.96	15.25	4.36	5.77 ***

It is not surprising that poor students are more anxious than good students. Low achievers` coping resources, i.e. their FL competence, are more limited than those of high achievers.

6.3.3 Differences between low- and high-anxiety students achievement.

Table 6 reveals that low anxious students get systematically better results than high anxious students.

Table 6. Differences between low- and high-anxiety students`s achievement (n=113 to 118 and 71 to 78).

	Low anxiety		High anxiety		
	Mean	SD	Mean	SD	T-value
School mark	8.21	1.32	6.41	1.39	9.08 ***
Three of a kind 1	25.43	6.26	18.15	7.84	6.69 ***
Categories 1	21.25	9.50	13.41	6.27	6.74 ***
Three of a kind 3	26.31	5.75	18.46	7.97	7.32 ***
Categories 3	22.25	6.56	14.05	6.75	7.05 ***

Tables 5 and 6 support the above general notion that achievement and anxiety are negatively related to each other. Low anxious students get better results in English and good students are less anxious than poor students.

7 Discussion

The anxiety measures used in this study have some obvious defects. The number of items should have been larger. Besides, semantic problems are also involved. In Finnish anxiety (jännittäminen) might refer to facilitative anxiety while distress (ahdistus) refers to anxiety proper. The anxiety measures should be further developed and tested.

The results are in line with those of earlier studies. There is a connection between anxiety and FL achievement. The level of anxiety (trait and state test anxiety) is relatively low, which would seem to provide a favourable background for effective language learning. Yet, the paper and pencil test used in measuring test anxiety in the present study may not be particularly anxiety provoking. Tests of oral proficiency might have produced more anxiety (c.f. Horwitz et al. 1989, Phillips 1992).

In the Finnish context the role of anxiety or communicative stress in language learning should , nevertheless, be studied further in the upper secondary school where oral proficiency and its testing are becoming more important. It might be worthwhile measuring anxiety in connection with the FL tests of the Matriculation Examination (the school leaving examination taken at the age of 18). This may, however, cause ethical problems because anxiety testing could affect negatively students` performance.

Further, the interaction between trait and state anxiety needs to be investigated more thoroughly. The student`s personality and the features of the FL classroom have to be combined. Possible sources of anxiety in the classroom would be e.g. the teacher, the teaching method, tasks and learning materials, learning situations, classroom climate etc. Different types of learning tasks (e.g. open vs closed) and situations (individualistic, cooperative and competitive) have been found to influence state anxiety, and eventually also trait anxiety . Finally, anxiety should not be studied alone but within a wider framework covering such constructs as motivation, self-concept, personality etc. (Boekaerts 1988, Helmke 1989, Julkunen 1989)

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